



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,173	02/26/2002	Thomas Thuli	34341	5126
116	7590	10/08/2003	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			BOUTSIKARIS, LEONIDAS	
		ART UNIT	PAPER NUMBER	
			2872	

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/083,173	THULI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Leo Boutsikaris	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 February 2002.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-2,5/2,6/1,6/2,7/1,7/2,8/1,8/2,9 is/are rejected.
- 7) Claim(s) 3-4,5/4,6/3,6/4,7/3,7/4,8/3,8/4,10-16 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 February 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____                                     |

## **DETAILED ACTION**

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6/1, 6/2, 8/1, 8/2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nunoshita (US 4,092,060).

Regarding claim 1, Nunoshita discloses a thin film optical component (Figs. 3-4) comprising a base unit 10, a substrate 12 supported by the base unit, the substrate having an optically functionally surface (top and bottom), as substrate 12 comprises an optical waveguide (in other words, top and bottom surfaces of 12 act to guide propagation of light therewithin); and a coating 28 on the substrate 12 that extends beyond the substrate and onto the base unit 10 (lines 59-67, col. 4).

Regarding claims 2, 6/1, 6/2, the substrate 12 comprises glass and has a structured surface in the form of a ridge channel and is in specific relationship with a reference of the base

· Art Unit: 2872

unit, the reference being the two plane edge surfaces on each side of the substrate 12 (lines 60-62, col. 2).

Regarding claim 8/1, 8/2, the optical component shown in Fig. 3 is used as an optical switch (lines 53-57, col. 4).

Claims 1, 7/1, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Aumercier (GB 2,279,763).

Regarding claim 1, Aumercier discloses an optical component (Figs. 1-2) comprising a base unit 12, a substrate 16 supported by the base unit, the substrate having an optically functionally surface 14, and a coating 18 on the substrate that extends beyond the substrate and onto the base unit 10 (p. 6).

Regarding claim 7/1, the optically functionally surface of the substrate has the optical function of a mirror.

Regarding claim 9, the coating 18 is formed on top of the optical element by a vacuum coating process, i.e., cathodic vacuum deposition (p. 7).

Claims 1-2, 5/2, 7/2 are rejected under 35 U.S.C. 102(b) as being anticipated by King (US 4,063,268).

Regarding claim 1, King discloses an optical component (Figs. 1-2) comprising a base unit 10, a substrate 12 supported by the base unit, the substrate having an optically functionally surface (all sides above plane 11), and a coating 13 on the substrate that extends beyond the substrate and onto the base unit 10 (lines 4-18, col. 2).

Art Unit: 2872

Regarding claim 2, the trapezoid-shaped substrate 12 is located in a predefined fashion in a specific relationship with a reference 15 in the base unit, reference 15 having two parallel plane surfaces. It is noted that the claim language does not define the limitation “two plane reference surface” with any degree of specificity, hence mesa-shaped unit 15 reads on the above claim language.

Regarding claim 5/2, the substrate 12 and the reference 15 extend in one plane i.e., surface 11.

Regarding claim 7/2, the functional surface of the substrate 12 has the optical function of a mirror.

***Allowable Subject Matter***

Claims 3-4, 5/4, 6/3, 6/4, 7/3, 7/4, 8/3, 8/4, 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3-4, 5/4, 6/3, 6/4, 7/3, 7/4, 8/3, 8/4, 10-16 are allowed over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, regarding claims 3-4, 5/4, 6/3, 6/4, 7/3, 7/4, 8/3, 8/4, an optical component wherein the substrate is oriented with respect to the reference within the claimed ranges, regarding claims 10-16, a method for fabricating an optical component, wherein an assembly device is used having a support plate being brought into contact with the substrate, and having a counterpart of the reference being into contact with the reference, with the support plate and the counterpart remaining in a rigid position relative to each

Art Unit: 2872

other, while the substrate and the reference are positioned with respect to each other, as set forth by the claimed combination.

Case (US 2002/0114580) discloses a method for fabricating optical components in predetermined relation with each other, wherein a first optical module has a first optical component pre-aligned with respect to a reference feature, and subsequently the first optical module is mounted to a first predetermined location on the fixed reference. A similar procedure is followed for a second optical module (Figs. 1-2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 703-306-5730.

Leo Boutsikaris, Ph.D.  
Patent Examiner, AU 2872  
September 25, 2003



DREW DUNN  
SUPERVISORY PATENT EXAMINER